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EXAMINER

NGUYEN, HANH N

ART UNIT PAPER NUMBER

2834

DATE MAILED: 06/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/770,939

Applicant(s)

WITTIG, MICHAEL B.

Examiner

HANH NGUYEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 12A in page 12, line 8, recess 144 in Page 18, line 18, 142B in page 21, line 14, 14O in Fig. 2 was not described in the specification, 140<sup>ok</sup> in Fig. 4 was described as 140A in Page 19. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Claim 1 recites "first and second electrical conductors secured to the first and second rotor components respectively" while Fig. 4 to Fig. 6 only show 1 electrical conductor 140 and 1 rotor component 130. Therefore, the drawings must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Specification*

2. The disclosure is objected to because of the following informalities: "out of paper" in Page 14, line should be ---in the opposite direction of 78---, the "attenuator 106" in Page 18 should be ---magnet support 106---, "pin 142" should be ---bearing 142---.

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Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 10 rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 10 recites "the magnet are permanent magnets" while the specification discloses "the magnet 104 are electromagnets. Each magnet includes a coil through which a current can be provided to magnetize the coil"

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1 and 12 recite "the arrangements having a common axis and magnetic field lines forming in one direction across a first rotor gap (or actuator gap) from each odd magnet of the first arrangement to each odd magnet of the second arrangement and across a second rotor gap (or actuator gap) from each odd magnet of the second arrangement back to each odd magnet of the first arrangement". Accordingly, it is

understood that there is two arrangements and the motor can not have the second rotor gap while the specification discloses "magnetic field lines 124 forming in one direction across a first rotor gap from each odd magnet of the first arrangement to each odd magnet of the second arrangement and across a second rotor gap from each odd magnet of the second arrangement to the odd magnets of the third arrangement (Page 17 and Fig. 4), magnetic field line sequentially through the arrangement A,B,C,D and E, whereafter the magnetic field lines return through the second portion 114, the core 110, the first portion 112 to the magnets of first arrangement"

Claims 1 and 12 also recites "and in an opposing direction across the second rotor gap (or actuator gap) from each even magnet of the first arrangement to each even magnet of the second arrangement and across the first rotor gap (or actuator gap) from each even magnet of the second arrangement back to each even magnet of the first arrangement" while the specification discloses "magnetic field lines 126 in an opposite direction from even magnet of third arrangement across the second rotor gap to the even magnets of the second arrangement and across the first rotor gap to the even magnets of the first arrangement (Page 17 and Fig. 4)".

Claim 1 and 12 also recite "first and second electrical conductors secured to the first and second rotor components (or actual components) respectively, the first conductor having a section located in the first rotor gap (or actual gap) and extending transverse to the magnetic field lines so that a current therein causes rotation thereof about the axis, the second conductor having a section located in the second rotor gap (or actual gap) and extending transverse to the magnetic field lines so that a current

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therein causes rotation thereof about the axis". It is not clear if the first and the second electrical conductor are identical or different conductor.

Claims 1 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: electrical conductor 140 and 140A, 140B, 140C.

Claims 1 and 9 recite the limitations "the first arrangement", "the second arrangement". There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitations "the selections". There is insufficient antecedent basis for this limitation in the claim.

Claims 2-10 are dependent on claim 1 and claim 13 is dependent on claim 12.

Claim 7 recites the limitation "the link is located outside the arrangements". It is not clear about the relative position of the link with respect to the arrangement.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-9, 11-13 are rejected under 35 U.S.C. 102(b) as being fully anticipated by Goldie et al.

Regarding claim 1, Goldie et al. disclose an electric motor comprising:

a housing (32); a plurality of stator magnets (electromagnets as shown in Fig. 2) secured to the housing and located in at least two circular arrangements (rotor 12,14,16), for each arrangement odd magnets having north on a first side and south on a second side and even magnets having south on the first side and north on the second side (inherent because as can be seen clearly in Fig. 2, the stator disk 22 will have 6 poles N and S alternately and have the opposite poles on the opposite planar surface), the arrangements having a common axis and magnetic field lines (90 in Fig. 4) forming in one direction across a first rotor gap from each odd magnet of the first arrangement to each odd magnet of the second arrangement and across a second rotor gap from each odd magnet of the second arrangement back to each odd magnet of the first arrangement (Fig. 1), and in an opposing direction (magnetic field lines 92 in Fig. 4) across the second rotor gap from each even magnet of the first arrangement to each even magnet of the second arrangement and across the first rotor gap from each even magnet of the second arrangement back to each even magnet of the first arrangement; first and second rotor components located in the first and second rotor gaps respectively; a link (18) which secures the rotor components to one another to form a rotor, the rotor being mounted to the housing for rotation about the axis; and first and second electrical conductors (84 and 86 in Fig. 3) secured to the first and second rotor components respectively, the first conductor having a section located in the first rotor gap and extending transverse to the magnetic field lines so that a current therein causes rotation thereof about the axis, the second conductor having a section located in

the second rotor gap and extending transverse to the magnetic field lines so that a current therein causes rotation thereof about the axis (inherent).

Regarding claim 12, it is noted that Goldie et al. have fulfilled all of the limitations of the claim.

Regarding claim 2 and 3, Goldie et al also disclose the electric motor wherein the second arrangement is axially spaced from the first arrangement and the first rotor component is a planar member in a plane transverse to the axis as can be seen clearly in Fig. 1.

Regarding claim 4 and 5, Goldie et al also disclose the electric motor wherein the section of the first conductor extends substantially radially and the first conductor includes alternating odd and even sections located in series and orientated such that current flows outwardly through odd sections and inwardly through even section (Fig. 3).

Regarding claim 6, Goldie et al also disclose the electric motor wherein there are as many odd sections as odd magnets of the first arrangement (Fig. 3).

Regarding claim 7, Goldie et al also disclose the electric motor wherein the link (18) is located outside the arrangements (outside the planar surface) and rotates about the arrangements.

Regarding claim 8, Goldie et al also disclose the electric motor comprising a third of said arrangements (rotor 24), the magnetic field lines forming in the one direction from each odd magnet of the second arrangement across the second rotor gap to each odd magnet of the third arrangement, and in the opposing direction from each even



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magnet of the third arrangement across the second rotor gap to each even magnet of the second arrangement (Fig. 1 and Fig. 4).

Regarding claim 9, Goldie et al also disclose the electric motor wherein the housing includes a first end portion (cap 30) located on a side of the first arrangement opposing the second arrangement, a second end portion (cap 28 in Fig. 1 and Col. 8, lines 38-45) located on a side of the third arrangement opposing the second arrangement, and a core extending through the arrangements, the portions and the core providing a magnetic return path for the magnetic field lines.

Regarding claim 11, Goldie et al also disclose the electric motor wherein the magnets are electromagnets (Fig. 2).

Regarding claim 13, Goldie et al also disclose the electric motor wherein the arrangements (stator disk in Fig. 2) are circular arrangements having a common axis (18), the actuator is a rotor (12) mounted for rotation about the axis and the currents (84,86 in Fig. 3) cause rotation of the selections about the axis.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Goldie et al. in view of Hahn.

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Regarding claim 10, Goldie et al. show all limitations of the claimed invention except showing the electric motor wherein the magnets (of the stator) are permanent magnets.

However, Hahn discloses the electric motor wherein the magnets (34 in Fig. 1) of the stator (32) are permanent magnets for the purpose of simplifying the structure of the motor.

Since Goldie et al. and Hahn are in the same field of endeavor, the purpose disclosed by Hahn would have been recognized in the pertinent art of Goldie et al.

It would have been obvious at the time the invention was made to a person having an ordinary skill in the art to modify Goldie et al by using permanent magnets to form the stator as taught by Hahn for the purpose of simplifying the structure of the motor.

### ***Conclusion***

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh N Nguyen whose telephone number is (703) 305-3466. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3431 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1782.

HNN

June 11, 2002



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